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Cover Sheet + 14 Pages

Message:

RE: Serial No.: 09/725,309

Filed: 11/29/2000

Inventor: Singh et al.

Docket No.: 79,212

Fee Transmittal - 1 page

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PATENT APPLICATION
Navy Case No.: 79,212

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of: Singh et al.

Serial No.: 09/725,309

Filed: 11/29/2000

For: PASSIVATION OF NERVE AGENTS BY SURFACE MODIFIED ENZYMES
STABILIZED BY NON-COVALENT IMMOBILIZATION ON ROBUST, STABLE
PARTICLES

Examiner: Hutson, Richard

Art Group Unit: 1652

Honorable Commissioner of Patents
Washington, D.C. 20231

March 12, 2003

AMENDMENT AFTER FINAL REJECTION

Sir:

This amendment is in response to the Office Action mailed on 12/03/2002 with a shortened statutory period of reply set for three months. A petition and fee for a one month extension are attached. Please amend the above-identified patent application as follows.

In the specification, please replace the identified paragraph with the following rewritten paragraph.

Paragraph beginning at page 5, line 19

B' Examples of enzymes which are useful in detoxifying nerve agents are thioesterases, although the process of the present invention can be used with any type of enzyme useful for destroying waste materials. One example of this is lipase, which is used for digesting waste onboard ships. The enzymes are genetically engineered to include a poly-His tail as well as other stabilizing amino acid substitutions. Non-covalent enzyme immobilization on polymerized liposomes was effected by co-polymerizing amphiphiles containing metal salts of iminodiacetic acid or nitrilotriacetic acid with other polymerizable amphiphiles and then binding the enzyme to the iminodiacetic acid-metals or NTA-metal salts on the outer surfaces of the vesicles. This technique relies on the strong binding affinity between iminodiacetate salts or NTA salts and polyhistidine, which has been made available on the surface of the enzyme selected for immobilization through genetic engineering. The enzymes that can be used for this technique

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